

2 SEMI-ANNUAL REPORT

In accordance with Title V Permit Standard Condition 1.F, BAAQMD Regulation 8-34-411, 40 CFR §60.757(f) in the NSPS, and 17 CCR §95470(b)(3), this report is a Combined Semi-Annual Title V Report, Partial 8-34, and Partial Methane Control Annual Report that is required to be submitted for the Central Disposal Site. The report contains monitoring data for the operation of the LFG collection and control system (GCCS). The operational records have been reviewed and summarized. The following table lists the rules and regulations that are required to be included in this Combined Report.

Table 2-1: Semi-Annual Report Requirements

RULE	REQUIREMENT	LOCATION IN REPORT
8-34-501.1 §60.757(f)(4), §95470(a)(1)(A)	All collection system downtime, including individual well shutdown times and the reason for the shutdown.	Section 2.1, Appendices B & C
8-34-501.2 §60.757(f)(3), §95470(a)(1)(B)	All emission control system downtime and the reason for the shutdown.	Section 2.1 & 2.2, Appendices B, C, D, & E
8-34-501.3, 8-34-507, §60.757(f)(1), §95470(a)(1)(K)	Continuous temperature for all operating flares and any enclosed combustor.	Section 2.3, Appendices F & T
8-34-501.5	Monthly LFG flow rates and well concentration readings for facilities that operate under less than continuous operation.	Section 2.5
8-34-501.6, 8-34-503, 8-34-506, §60.757(f)(5), §95470(a)(1)(D)	For operations subject to component leak testing and surface emission monitoring, records of all monitoring dates, leaks in excess of the limits that are discovered by the operator, including the location of the leak, leak concentration in ppmv, date of discovery, wind speed, the action taken to repair the leak, date of the repair, date of any required re-monitoring, and the re-monitored concentration in ppmv.	Section 2.6 & 2.7, Appendices H & I
8-34-501.7, §95470(a)(1)(F)	Annual waste acceptance rate and current amount of waste in-place.	Section 2.10, Appendix L
8-34-501.8	Records of the nature, location, amount, and date of deposition of non-degradable wastes, for any landfill areas excluded from the collection system requirement as documented in the Collection and Control Design Plan.	Section 2.11
8-34-501.9, 8-34-505, §60.757(f)(1), §95470(a)(1)(E)	For operations subject to wellhead monitoring, records of all monitoring dates and any excesses of the limits that are discovered by the operator, including well identification number, the measured excess, the action taken to repair the excess, and the date of repair.	Section 2.12, 2.12.1, Appendices N & O
8-34-501.10,	Continuous gas flow rate records and heat input	Section 2.13,

RULE	REQUIREMENT	LOCATION IN REPORT
8-34-508, §60.757(f)(1), §95470(b)(3)(B), §95470(b)(3)(D)	records.	Appendices P & T
8-34-501.11, 8-34-509, §95470(a)(1)(K)	Records of key emission control system-operating parameters.	Section 2.2.2 Appendix U
8-34-501.12, §95470(a)(1)	The records required shall be made available and retained for a period of five years.	Section 1.2
8-34-510	The surface shall be monitored for cover integrity on a monthly basis.	Section 2.4 Appendix G
§60.757(f)(2), §95470(b)(3)(G)	Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow. Type and amount of supplemental fuels burned in each device.	Section 2.2.1
§60.757(f)(6), §95470(b)(3)(E)	The date of installation and the location of each well or collection system expansion added.	Section 2.14, Appendices A & C
§95470(b)(3)(H)	Total volume of LFG shipped off-site, the composition of the LFG collected, and the recipient of the gas.	Section 2.16
§60.752(b)(2)(ii), §95470(a)(1)(C)	Expected gas generation flow rate.	Section 2.17, Appendix V
§60.10(d)(5)(i),	Startup, Shutdown, Malfunction Events	Section 4, Appendices C, D & E

2.1 COLLECTION SYSTEM OPERATION

The County has consistently installed, upgraded, and operated the GCCS since the system was initially constructed in 1987 with an enclosed flare (A-2). The A-2 flare was dismantled and replaced by a John Zink ZTOF® enclosed flare (A-3) in 2010. The current GCCS includes LFG collection devices (vertical extraction wells and horizontal collectors), collection piping, and LFG-to-electrical power generating (LFGTE) facility, an enclosed flare (A-3), and an LFG compression facility (S-15). The LFGTE facility was constructed in three separate phases. Phase I was constructed in 1993 consisting of Units 1 through 4 (Sources S-4 through S-7). Phase II was constructed in 1996 consisting of Units 5 through 8 (S-9 through S-12). Phase III was constructed in 2004 consisting of Units 9 and 10 (S-13 and S-14). Appendix A contains a current map of Central disposal Site's existing GCCS.

The primary emission control devices for the landfill (source S-1) are the ten Caterpillar® 3516 IC engines within the LFGTE (S-4, S-5, S-6, S-7, S-9, S-10, S-11, S-12, S-13 and S-14). The enclosed A-3 backup flare is operated as necessary when one or more IC engines are shut down and whenever flow of landfill gas (LFG) exceeds the capacity of the IC engines.

During the reporting period, several improvements to the collection system were completed.

In the south face area of LF-1 (the active fill area), 5 wells were decommissioned. This work was performed per the work plan submitted to the District by the County in a letter dated September 10, 2014. A copy of the letter is included in Appendix Q.

On the top deck area of LF-1, 12 replacement wells were installed in October 2014, and the 12 replaced wells were taken out of service, and improvements to the header system were completed. Work was performed per the Construction Plan submitted to the BAAQMD in a letter dated September 22, 2014, and was authorized by the PTO issued pursuant to application number 26628 which authorized decommissioning of up to 50 wells and installation of 50 replacements. Copies of the September 22, 2014 letter to the BAAQMD and the December 19, 2014 letter from the BAAQMD approving the PTO are included in Appendix Q.

Pursuant to ATC #25782 issued in October 2013, a notification letter was submitted to the BAAQMD on December 22, 2014 for decommissioning of four additional vertical wells (V-53, V-53.5, V-54, and V-55). A copy of the letter is included in Appendix Q.

2.1.1 Collection System Downtime

During the period covered in this report, the GCCS was not shut down for more than five consecutive days on any one occasion pursuant to BAAQMD Regulation 8-34-113 and 95470(a)(1)(A).

The total GCCS downtime for the reporting period (August 1, 2014 through January 31, 2015) is 2.58 hours (out of 240 hours allowed per calendar year pursuant to BAAQMD Regulation 8-34-113). The GCCS Downtime Log is included in Appendix B. The Downtime Log for the backup flare is included in Appendix D. The individual IC Engine downtime Logs are included in Appendix E.

2.1.2 Well Disconnection Log

Wells that have been disconnected from the LFG collection system during the reporting period, and the applicable exemption from BAAQMD Regulation 8-34-305, have been recorded on the well disconnection log. Several wells were temporarily disconnected in front of the active face of LF-1 to allow filling activities. Two of the wells were inadvertently damaged or buried and are no longer in service. The other wells were subsequently reconnected after completion of filling. Several wells were also taken offline for several hours for maintenance during the reporting period. In addition, as previously discussed, 21 wells were decommissioned and/or replaced in LF-1.

Appendix C contains the Well Disconnection Log, including the individual well numbers, the shutdown times, the restart times, and reasons for the shutdowns. This well disconnection log comprises the Startup, Shutdown, Malfunction (SSM) Reports for the current reporting period.

2.2 EMISSION CONTROL DEVICE DOWNTIME

The primary emission control devices for the landfill (source S-1) are the ten IC engines (S-4, S-5, S-6, S-7, S-9, S-10, S-11, S-12, S-13 and S-14). The enclosed A-3 backup flare is operated as necessary when one or more IC engines are shut down and whenever flow of LFG exceeds the capacity of the IC engines. Note that the only flare operation during the reporting period was approximately 2 hours for purposes of source testing on October 30, 2014. See the source test report (Appendix R-1) for details.

Landfill operations were temporarily suspended for 5 years and were resumed in September 2010. The current gas generation projections indicate a reduction in the LFG generation rate of about 125 standard cubic feet per minute (scfm) per year during that period. This is evident by the decline of LFG flow to the emission control devices. The rate of the decline in LFG flow has lessened since landfilling resumed; however, declining flows are projected to continue for several more years at current landfilling rates. Currently there is not a sufficient flow of LFG to operate all 10 IC Engines. Engines No. 9 and 10 (S-13 and S-14) were put in long-term storage pursuant to BAAQMD Application No. 22513. Additionally, one or more engines may be placed in standby mode and alternated into service based on maintenance cycles and GCCS demands.

The information contained in Appendix D includes the A-3 backup flare downtimes and the reason for each shutdown. Appendix E contains all engine downtimes and the reasons for the shutdowns for the IC engines.

The total downtime for each source during the reporting period is as follows:

Table 2-2: Control Device Downtime

Source	Total Downtime (Hours)
A-3 (Backup flare)	4,414
S-4 (IC Engine 1)	2,307
S-5 (IC Engine 2)	1,054
S-6 (IC Engine 3)	899
S-7 (IC Engine 4)	137
S-9 (IC Engine 5)	487
S-10 (IC Engine 6)	2,637
S-11 (IC Engine 7)	497
S-12 (IC Engine 8)	1,527
S-13 (IC Engine 9)	4,416
S-14 (IC Engine 10)	4,416

2.2.1 LFG Bypass Operations and Supplemental Fuel

LFG cannot be diverted from the control equipment because no by-pass lines are installed at Central Disposal Site. LFG is the only fuel burned in the IC Engines; no supplemental fuel is used. A small amount of propane is used to startup the backup flare.

2.2.2 Key Emission Control Operating Parameters

The IC engines (S-4, S-5, S-6, S-7, S-9, S-10, S-11, and S-12) are subject to key emission control system operating parameters. Pursuant to Permit to Operate (PTO) condition 19933 Part 11, Central Disposal Site must operate each IC Engine at the fuel-to-air ratio established during the most recent complying source test. In addition, the exhaust oxygen concentration for each engine must be maintained with a range of 6.4 to 8.3 percent as established in Permit Application No. 9277. In order to demonstrate compliance with this requirement, the exhaust gas oxygen concentration for each engine is to be measured and recorded in a District approved log on at least a monthly basis.

Exhaust oxygen concentrations for all IC engines were in compliance with PTO Condition No. 19933 Part 11. The Monthly Exhaust Oxygen Content Log is included in Appendix U.

2.3 BACKUP FLARE TEMPERATURE MONITORING RESULTS

The A-3 flare combustion zone temperature while the flare is in operation must not drop below 1,400 degrees Fahrenheit (F) or 50 degrees F below the average combustion temperature during the most recent source test. Compliance with temperature limitations is determined on the basis of the 3-hour rolling average temperature.

The combustion zone temperature of the A-3 backup flare is continuously monitored during operation. The temperature is recorded by a Yokogawa data logger. Summaries of the backup flare temperature records review are noted in the Monthly Backup Flare Temperature Deviation Logs in Appendix F. The electronic files of backup flare temperature records are typically saved on a compact disc (CD) included in Appendix T of this report. However, for this reporting period, the flare operated for only 2 hours, for the purpose of source testing on October 30, 2015. As such, there were no 3-hour periods for compliance; therefore, no temperature deviations, and no flare data are included on the CD in Appendix T.

The A-3 backup flare temperature was maintained within compliance during the entire reporting period.

2.4 MONTHLY COVER INTEGRITY MONITORING

The Cover Integrity Monitoring was performed on a monthly basis during the reporting period. The Monthly Cover Integrity Monitoring reports are included in Appendix G. The cover integrity monitoring was performed on the following dates:

- August 3, 2014
- September 7, 2014
- October 5, 2014
- November 9, 2014
- December 7, 2014
- January 5, 2015

2.5 LESS THAN CONTINUOUS OPERATION

Central Disposal Site does not operate under "Less Than Continuous Operation."

2.6 SURFACE EMISSIONS MONITORING

A surface emissions monitoring plan (SEMP) was submitted to the BAAQMD as part of a Revised GCCS Design Plan, dated June 15, 2011, in accordance with the requirements of the NSPS, BAAQMD, and CARB. Monitoring methods include both Instantaneous and Integrated Surface Emissions Monitoring. Surface emissions are monitored quarterly or annually, as required by the regulations and as described in the SEMP. But in either case, both instantaneous and integrated monitoring are conducted concurrently. CARB approved the GCCS Design Plan (and subsequent SEMP) in a letter dated August 30, 2011. Third quarter 2014 monitoring was performed by Pacific GeoScience (PGS); fourth quarter monitoring was performed by SCS Field Services. Monitoring was conducted on the following dates:

- Third Quarter: September 22 through October 22, 2014 (several days of monitoring during this period)
- Fourth Quarter: January 14, 15, 16, and 19, 2015

Fourth quarter monitoring was initially performed on December 29, 2014; however, it was subsequently determined that due to monitoring equipment malfunction, the results were invalid. As such, the fourth quarter monitoring was rescheduled, and was performed during January 2015. Copies of communications with the BAAQMD associated with this monitoring event are provided in Appendix Q (see letters dated January 8, 2015 and January 30, 2015). These letters were intended to satisfy the 10-day and 30-day notification requirements specified in Section F of the site's Major Facility Review (MFR or Title V) Permit.

Surface emission monitoring reports for both the instantaneous and integrated surface emission monitoring are included in Appendix H.

2.6.1 Instantaneous Surface Emission Monitoring

For instantaneous surface monitoring, the average methane level must be less than 500 ppmv at any location on the landfill surface as required in 8-34-303 and §95465(a)(1). A Surface Emission Monitor (SEM-500) manufactured by CES-Landtec was used to monitor the path along the landfill surface for the total organic compound concentrations according to the Landfill SEMP map. Immediately prior to monitoring events, the SEM-500 instrument was zeroed and calibrated in accordance with manufacturers' recommendations. Grids with instantaneous point sources greater than 200 ppmv have been identified and are listed in the SEM reports provided in Appendix H.

Third Quarter 2014 Instantaneous Monitoring Event

There were no grids with an exceedance of the 500 ppm surface concentration standard identified during the third quarter surface monitoring event.

Fourth Quarter 2014 Instantaneous Monitoring Event

There were no exceedances of the 500 ppm surface concentration standard identified during the fourth quarter instantaneous surface monitoring event on either Landfill 1 or Landfill 2.

2.6.2 Integrated Surface Emissions Monitoring

For integrated surface monitoring, the average methane level must be less than 25 ppmv for each grid as required in §95465(a)(2). When instantaneous methane levels of 500 ppmv or greater were encountered, integrated monitoring was suspended and instantaneous monitoring was conducted to determine the areal extent and maximum concentration of the exceedance. Grids with an integrated sampling average greater than 25 ppmv are required to be remediated and re-monitored within 10 calendar days of the initial exceedance.

Third Quarter 2014 Integrated Monitoring Event

There were five grids that exceeded the 25 ppm integrated standard during the third quarter surface monitoring event that began on September 22, 2014 and ended on October 22, 2014. The integrated methane regulatory limit was exceeded at Landfill 1 (Cell 72 and 78), and at Landfill 2 (Cells 94, 98, and 99).

The two Landfill 1 locations could not be remonitored as required by the regulation due to active filling. The filling activity has been completed and both wells were monitored during the fourth quarter 2014 monitoring event and both were within the compliance limit.

The three Landfill 2 locations were remonitored once after completing corrective action, then a monitored a third time as required by the regulation; however, the re-monitoring was not done within the 10-day timeline specified in the rule. In addition, none of the three locations could be corrected. As such, the regulation specifies that a new or replacement well must be installed within 120 days of the third monitored exceedance, which occurred for all three of the locations on October 22, 2014.

The County sent a letter to the BAAQMD on October 15, 2014 to propose an alternative compliance plan consisting of pulling harder from the LFGTE plant and placing additional cover soil in the areas of concern, as needed, to correct the exceedances; and that, after some revision, the alternative plan was verbally approved by the BAAQMD's Linda Carey on November 17, 2014. As such, the County considers the surface exceedances are not considered to be permit deviations at this time.

Fourth Quarter 2014 Integrated Monitoring Event

There were no grids that exceeded the 25 ppm integrated standard during the fourth quarter surface monitoring event that began on January 14, 2015 and ended on January 19, 2015

2.7 COMPONENT LEAK TESTING

Pursuant to Section 8-34-301 of BAAQMD's Regulation 8, Rule 34, the regulatory limit for methane concentration at LFG components and connections is 1,000 parts per million by volume (ppmv). However, pursuant to requirements effective July 1, 2011, §95464(b)(1)(B) of CCR Title 17 establishes the regulatory limit at 500 ppmv methane for components and connections leaks at municipal landfills. The quarterly component leak monitoring data are presented in Appendix I. Pacific GeoScience performed component leak monitoring on the following dates:

- Fourth Quarter, 2014 – October 29 and 30; and
- First Quarter 2015 – January 21 and 22;

There were no component leaks exceeding 500 ppmv methane identified during the fourth quarter 2014 component monitoring event. There were 5 component leaks exceeding both the 500 and 1,000 ppmv methane limits identified during the first quarter 2015 component monitoring event. Repairs at all 5 location were made, and remonitoring indicated methane levels at all 5 locations was below 500 ppm. Repairs at 3 of the locations were completed within the 7-day period specified in Rule 8-34-301. However, repairs at the other 2 locations were completed on January 30, 2015, 8 days after the initial monitoring.

2.8 SULFUR MONITORING RECORDS

The concentration of total reduced sulfur compounds in the LFG must not exceed 1,300 ppmv pursuant to Permit Condition 4044 Part 7. Total sulfur content in LFG was analyzed during the annual gas characterization tests, pursuant to Condition 4044 Part 18. The concentration of total reduced sulfur compounds in the LFG did not exceed 1,300 ppmv during either reporting period.

Table 2-3: Sulfur Monitoring Records

	Date	Readings (ppmv)
Total Sulfur as H ₂ S	10/30/14	100.0

2.9 DUST SUPPRESSION RECORDS

Water was used as a dust suppressant pursuant to Permit Condition 4044 Part 19n. Monthly Dust Suppression Records are presented in Appendix K.

2.10 WASTE ACCEPTANCE RECORDS

Pursuant to Condition 4044 Part 1, the total amount of solid waste received at the S-1 landfill must not exceed 2,500 tons per day (tpd), or 897,500 tons per year (tpy). Monthly waste tonnage acceptance records are provided in Appendix L. Table 2-4 summarizes the monthly waste acceptance rate during the report period.

Table 2-4: Waste Disposal Records Summary

Month	Quantity (tons)	Daily Avg. (tons)
August 2014	17,059	550
September 2014	11,699	390
October 2014	18,606	600
November 2014	16,175	539
December 2014	18,323	591
January 2015	17,964	579
Semi-Annual Total	99,826	542

Pursuant to Condition 4044 Part 1, the total cumulative amount of all wastes and cover materials placed in the landfill shall not exceed 19.59 million tons, daily waste acceptance shall not exceed 2,500 tons, and annual waste acceptance shall not exceed 897,500 tons. The total waste in place through December 31, 2014 was 14,137,574 million tons.

Pursuant to Condition 4044 Part 19c, the 12-month waste acceptance totals for the preceding 12-month period (February 1, 2014 through January 31, 2015) was less than the annual tonnage limit of 897,500 tons, per Condition 4044 Part 1. Daily waste acceptance did not exceed 2,500 tons as required by Condition 4044 Part 1.

2.10.1 Low-VOC Content Soil Acceptance Records

Pursuant to Permit Condition 4044 Part 21, the amount of volatile organic compound (VOC) laden soil disposed of in the landfill must be limited so that no more than 15 pounds per day (lbs/day) of total carbon could be emitted to the atmosphere per day. VOC laden soil is soil that contains VOC in concentrations that are less than 50 parts million by weight (ppmw) threshold for contaminated soil. The amount and VOC concentrations of all VOC laden soils must be recorded on a daily basis.

VOC laden soil was accepted at the Central Disposal Site during the reporting period. There were no days during the reporting period when potential carbon emissions from the low VOC soil exceeded the 15 lbs/day limit. Records of the amount of low VOC soil are provided in Appendix M.

No VOC contaminated (greater than 50 ppmw) soil was accepted during the reporting period.

2.11 NON-DEGRADABLE WASTE ACCEPTANCE RECORDS

The Collection and Control System Design Plan for Central Disposal site does not indicate non-degradable waste areas that are excluded from the collection system.

2.12 WELLHEAD MONITORING DATA

Wellhead monitoring was performed on a monthly basis. The Monthly Well Monitoring Records for the reporting period are provided in Appendix N. Each well was monitored for the following:

- Each wellhead shall operate under a vacuum; and
- The LFG temperature in each wellhead shall be less than 55°C (131°F); and
- The oxygen concentration in each wellhead shall be less than 5 percent by volume.

The County requested exemption from BAAQMD Rule 8-34 wellhead standards and alternate wellhead monitoring limits for 11 extraction wells. BAAQMD approved the alternate wellhead monitoring limits for these extraction wells in ATC No. 16582. Permit Condition 4044 Part 5b was added to the Permit to Operate allowing up to 15 percent oxygen in gas extraction wells V-58, V-61, V-62, V-117, EC-9.1, EC-15, EC-19, EC-24, EC-25, EC-26, and EC-26.1. However, wells EC-9.1, EC-25, EC-26, and EC-26.1 failed and were decommissioned in December 2009, pursuant to ATC Application No. 16497.

2.12.1 Wellhead Exceedances

The wells that exceeded BAAQMD Regulation 8-34-305, Permit Condition 4044 Part 5b, and/or 17 CCR §95469(c) limits were repaired pursuant to the regulations. The Well Exceedance Log for the reporting period is provided in Appendix O. All exceedances involved O₂. The Well Exceedance Log includes the well identification number, parameter exceedance, date of initial exceedance, corrective actions taken, date of follow-up monitoring, compliance status, and summarizes the gas collection wells that exceeded applicable limits. Oxygen levels in all wells were corrected and returned to concentrations below their respective limits, with the exception of well V-013.2, which the County has had chronic high oxygen problems. This well was permanently taken out of service on February 24, 2015, and will be decommissioned. As indicated in the Appendix O log, remonitoring of 3 of the wells (EC-37, H-04, and V-013.2) was not completed within 15 days of the initial exceedance, as required by the applicable regulations.

2.13 LFG FLOW MONITORING RESULTS

Continuous IC engine gas flow readings and backup flare combustion temperature and gas flow readings are recorded by a Yokogawa data logger. The total amount of LFG combusted in each control device is provided in Appendix P. The monthly total and daily average LFG flow records and heat input for the A-3 backup flare and the IC engines are provided in Appendix P. The Electronic Files of the Yokogawa IC Engines Flow Records and Backup Flare Temperature and Flow Records are provided in Appendix T.

Table 2.5: Total Flow

Month	A-3 Backup Flare (total scf)	Phase I (S-4, S-5, S-6 and S-7) (total scf)	Phase II (S-9, S-10, S-11 and S-12) (total scf)	Phase III (S-13 and S-14) (total scf)	All (total scf)
August 2014	0	37,039,826	24,729,821	0	61,769,647
September 2014	0	37,039,826	24,729,821	0	123,539,294
October 2014	235,819	29,854,263	40,176,254	0	70,266,336
November 2014	0	29,894,915	41,524,276	0	71,419,191
December 2014	0	26,757,557	28,215,105	0	54,972,662
January 2015	0	23,034,206	21,362,322	0	44,396,528
Period Total	235,819	183,620,593	180,737,599	0	364,594,011

Table 2-6: Total Heat Input

Month	A-3 Backup Flare (MMBtu)	Phase I (S-4, S-5, S-6 and S-7) (total MMBtu per unit)	Phase II (S-9, S-10, S-11 and S-12) (total MMBtu per unit)	Phase III (S-13 and S-14) (total MMBtu per unit)	All (total MMBtu)
August 2014	0	4,765.21	3,181.52	0	31,786.91
September 2014	0	4,765.21	3,181.52	0	31,786.91
October 2014	113.95	3,606.40	4,853.30	0	33,952.76
November 2014	0	3,603.74	5,005.63	0	34,437.48
December 2014	0	3,638.90	3,837.12	0	29,904.08
January 2015	0	3,161.71	2,932.22	0	24,375.74
Period Total:	114	23,541	22,991	0	186,244

Permit Condition 4044 Part 13 applies to the A-3 backup flare, the heat input to the A-3 flare shall not exceed 547,680 million BTU per year (MMBtu/yr) and shall be summarized monthly. For the reporting period, the A-3 backup flare remained in compliance and did not exceed the annual heat input limit set by Permit conditions.

Pursuant to Permit Condition 19933 Part 10, the heat input to each IC engine shall not exceed 252.6 MMBtu/day, or 92,199 MMBtu/year, and shall be summarized monthly. Phase I, Phase II, and Phase III LFG daily flow records are divided by the number of engines that operated to calculate heat input per engine per day (MMBtu/unit). During the reporting period none of the IC engines exceeded the daily or annual heat input limits set by Permit Conditions.

2.14 DATE OF INSTALLATION AND LOCATION OF EACH COLLECTOR

The County installed 12 replacement wells in the top deck area of LF-1 to replace the 12 existing wells with the same ID (e.g., well V-84A replaced well V-84) in the same approximate locations as the wells they replaced. Well locations are shown on the site map provided as Appendix A. The new wells are V-84A, 85.1A, 85.5A, 86A, 105A, 106A, 108A, 110A, 125A, 126A, 127A, and 129A. The new wells went online on October 23, 2014.

2.15 NOTICES OF VIOLATION ISSUED BY THE BAAQMD

No Notices of Violation (NOV) were issued during the reporting period.

2.16 VOLUME OF LANDFILL GAS CONVERTED IN S-15

The LFG compression plant (S-15) is a pilot scale unit designed to operate as a closed loop system with all waste gases vented to either the flare or IC engines pursuant to Permit Condition 23087. The unit was completed in February 2009. Compressed natural gas (CNG) produced at the Central Disposal Site has historically been used to fuel select vehicles in the Sonoma County Transit bus fleet. In October of 2013 the plant experienced a critical mechanical failure. As a result, the plant has not been used during the entire reporting period and, therefore, no CNG was produced at the plant and there was no through-put.

2.17 EXPECTED GAS GENERATION FLOW RATE

The USEPA LandGEM, Version 3.02, generation model was used to estimate the site's maximum LFG generation rate in accordance with 40 CFR Section 60.755(a)(1). Following the method described in 40 CFR 60.755 (a)(1), LandGEM calculated a LFG generation estimate for 2014 of approximately 2,791 scfm. Using the USEPA-recognized default GCCS collection efficiency of 75 percent as published in AP-42, the estimated 2014 LFG extraction rate was estimated to be 2,093 scfm. A summary table of the LandGEM gas generation modeling is included in Appendix V along with the model input and results report.

As required in §95471(e), the expected gas generation flow rate was determined using the California Air Resources Board (CARB) Implementation of the 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories, using a recover rate of 75 percent. The 2014 LFG extraction rate was estimated to be 2,019 scfm. A summary table of the IPCC gas generation modeling is included in Appendix V along with the model inputs and results.

As represented in the summary tables for both the LandGEM and IPCC models in Appendix V, the LFG generation rate peaked when the CDS suspended landfilling operations in 2005. As a result, LFG generation at the CDS has been in a state of steady decline. The current actual and modeled LFG generation and extraction estimates, as well as the modeled projections for 2020 and 2030 are presented below in Table 2.7.

Table 2-7: LFG Generation and Extraction Estimates

Year	USEPA LandGEM Generation at (75% Recovery) (scfm)	CARB/IPCC GHG Methodology (75% Recovery) (scfm)	Actual Extraction (scfm)	Existing Capacity (scfm)
2013	2,118	1,734	1,532	4,375
2014	2,093	2,019	1,461	4,375
2020	2,005	1,867	N/A	-
2030	1,608	NA	N/A	-

The total LFG treatment capacity of the LFGTE facility is approximately 2,875 scfm. The enclosed flare (A-3) has a design capacity of 1,500 scfm. The flare is a back-up device to the LFGTE facility; however it is permitted for continuous operation when sufficient LFG is available. The flare can be operated parallel and simultaneously with all ten engines to sustain a maximum LFG extraction rate of approximately 4,375 scfm.

4 STARTUP, SHUTDOWN, MANFUNCTION PLAN REPORT

The National Emission Standards for Hazardous Air Pollutants (NESHAPS), contained in 40 CFR Part 63, Subpart AAAA for Municipal Solid Waste (MSW) landfills to control hazardous air pollutants, include regulatory requirements for submittal of a semi-annual report (under 40 CFR §63.10(d)(5) of the general provisions) if an SSMP event occurred during the reporting period. The reports required by 40 CFR §63.1980(a) of the NESHAP and 40 CFR §60.757(f) of the NSPS summarize the GCCS exceedances. These two semi-annual reports contain similar information and have been combined as allowed by 40 CFR §63.10(d)(5)(i) of the General Provisions.

NESHAP 40 CFR Part 63, Subpart AAAA became effective on January 16, 2004. SSM events that occurred between August 1, 2014 and January 31, 2015 are included in this Combined Semi-Annual Report.

- The backup LFG control device (A-3 flare) is used to combust LFG when the power plant is off line for PG&E scheduled maintenance, switch gear repairs, and annual source testing of A-3. There was one SSM Flare event during this reporting period, which only operated for approximately 2 hours during October for source testing. The A-3 Flare Downtime Log is presented in Appendix D.
- During the reporting period seven wells were taken offline at various times due to filling activities; and 2 of those wells were subsequently inadvertently damaged or buried, and so are no longer in operation. Twelve new replacement wells were installed during the reporting period, and 21 wells were decommissioned, including the 12 wells that were replaced. The time and duration of each event are presented in the Wellfield SSM form contained in Appendix C.
- During the reporting period 220 SSM events occurred for all 10 IC Engines. The number of events for each engine is listed in Table 4-1 below. The time and duration of each SSM event for each of the IC Engines is presented in the IC Engines SSM forms contained in Appendix E. No SSM events occurred for IC Engines S-13 and S-14; these units are placed in long-term storage until further notice due to the lack of LFG production.

Table 4-1: I.C. Engine SSM Events

IC Engine No.	BAAQMD Source ID	No. of SSM Events
1	S-4	35
2	S-5	30
3	S-6	22
4	S-7	27
5	S-9	33
6	S-10	25
7	S-11	26
8	S-12	22
9	S-13	0
10	S-14	0

- Automatic systems and operator actions were consistent with the standard operating procedures contained in the site's SSM Plan.
- No exceedances of any applicable emission limitation in the landfills NESHAP (63.10(d)(5)(i)) occurred.
- Revisions of the SSM Plan to correct deficiencies in the landfill operations or procedures were neither required, nor prepared (§63.6(e)(3)(viii)).